

## Polar Meteorology and Glaciology

## No. 19

## CONTENTS

## Scientific Papers

Isotopic fractionation of water during snow formation:

### Experimental evidence of kinetic effect

.....*Ryu Uemura, Yohei Matsui, Naohiro Yoshida, Osamu Abe*  
*and Shigeto Mochizuki...* 1

Spreading of Antarctic Bottom Water examined using the CFC-11

distribution simulated by an eddy-resolving OGCM

...Yoshikazu Sasai, Akio Ishida, Hideharu Sasaki, Shintaro Kawahara,  
Hitoshi Uehara and Yasuhiro Yamanaka... 15

High temporal resolution chemical analysis of H72 ice core in east Dronning

Maud Land, Antarctica

.....*Keisuke Suzuki, Kaori Anzai, Makoto Igarashi*  
and *Hideaki Motovama*... 28

### Formation experiments of CO<sub>2</sub> hydrate chimney in a pressure cell

.....Satsuki Kataoka, Osamu Kitamura, Kinji Hyakutake,  
Kiyoshi Abe, Akihiro Hachikubo and Hitoshi Shoji... 42

## Classification of anomalous methane fields in the Sea of Okhotsk

.....Renat B. Shakirov, Anatoly I. Obzhirov, Anatoly N. Salyuk,  
Nicole Biebow, Valeriya E. Terekhova, Urumu Tsunogai  
and Hitoshi Shoji... 50

## Scientific Notes

Apparent stratospheric ozone loss rate over Eureka in 1994/95, 1995/96, and 1996/97 inferred from ECC ozonesonde observations

.... Michio Hirota, Koji Miyagawa, Kazuhiko Nagata, Kiyotaka Shibata,  
Tomohiro Nagai, Toshifumi Fujimoto, Yukio Makino,  
Osamu Uchino and Hans Fast... 67

# Radar echo characteristics at Ny-Ålesund, Svalbard and Arctic storms over the Norwegian Sea

.....Yoshio Asuma, Nao Ogitani and Makoto Wada... 82

Experimental results on the formation of hard compacted snow in Rikubetsu in northern Japan: A first step toward the construction of a compacted-snow runway on the Antarctic ice sheet ..... <i>Takao Kameda, Shuhei Takahashi, Kinji Hyakutake,</i> <i>Noriaki Kikuchi and Okitsugu Watanabe...</i>	95
Preliminary study of the transition of sea ice during the melting process ..... <i>Shinsuke Kojima, Toshiyuki Kawamura and Hiroyuki Enomoto...</i>	108
<i>Report</i>	
Design of the NIPR trajectory model ..... <i>Yoshihiro Tomikawa and Kaoru Sato...</i>	120
Note to contributors .....	138
Author index .....	140